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## INDEX TO NORTH AMERICAN MYCOLOGICAL LITERATURE.

BY DAVID G. FAIRCHILD.

15. BAILEY, L. H. Damping off. American Garden, Vol. XI, No. VI. June, 1890, p. 348. Thinks disease due to "potting-bed fungus," and recommends preventive remedies.
16. BENTON, L. E. A Japanese plum disease (with figure). Pacific Rural Press, May 17, 1890, Vol. XXXIX, No. 20, p. 505. *Taphrina pruni*, Tul., on imported species of plum.
17. BESSEY, C. E. The diseases of farm and garden crops. No. I. Announces series giving list of diseases to be spoken of. Nebraska Farmer, January 30, 1890, Vol. XIV, No. 5, whole No. 402, p. 89.
18. ——— No. II. Black knot [*Plowrightia morbosa*, (Schw.) Sacc.]. *Ibid.*, February 13, 1890, Vol. XIV, No. 7, whole No. 404, p. 129. Gives popular life history with recommendation to cut and burn diseased parts.
19. ——— No. III. Stinking smut [*Tilletia foetens*, (B. & C.) Trel.]. *Ibid.*, February 13, 1890, Vol. XIV, No. 7, whole No. 404, p. 130. Defines "smut," gives means of propagation, and recommends blue-vitriol solution for seed-wheat.
20. ——— No. IV. Grain smut [*Ustilago segetum*, (Bull.) Dit.]. *Ibid.*, February 20, 1890, Vol. XIV, No. 8, whole No. 405, p. 151. Recommends rotation in crops to prevent continuance of disease.
21. ——— No. V. Corn smut [*Ustilago maydis*, (DC.) Corda]. *Ibid.*, February 27, 1890, Vol. XVI, No. 9, whole No. 406, p. 165. Notes injury from disease and danger of using manure from animals fed with smutty corn.
22. ——— No. VI. Sorghum smut [*Ustilago sorghi*, (Link.) Pass.]. *Ibid.*, Vol. XIV, No. 10, whole No. 407, p. 189, March 6, 1890. Notices appearance of smut on Mill's maize in Nebraska and Wisconsin; recommends bath of blue-vitriol water for seed.
23. ——— No. VII. The strawberry leaf-spot (*Ramularia Tulasnei*, Sacc.). *Ibid.*, March 15, 1890, Vol. XIV, No. 11, whole No. 408, p. 209. Discusses removal of all leaves in fall, as preventive measure.
24. ——— No. VIII. Grain rust (*Puccinia graminis*, Pers., and other species). *Ibid.*, March 27, 1890, Vol. XIV, No. 13, whole No. 410, p. 250. Gives life history with well-known means of preventing spread.
25. ——— No. IX. The rust of the Indian corn (*Puccinia sorghi*, Schw.). *Ibid.*, April 10, 1890, Vol. XIV, No. 15, whole No. 412, p. 293. Recommends all uncut fodder to be burned, thus preventing wintering of fungus.
26. ——— No. X. The raspberry stem fungus. *Ibid.*, April 24, 1890, Vol. XIV, No. 17, whole No. 414, p. 333. Refers to destructiveness, with general means of combating the fungus.
27. ——— Seymour and Earle's economic fungi. American Naturalist, March, 1890, Vol. XXIV, No. 279, p. 277. Remarks usefulness of the publication.
28. ——— Ellis' North American fungi. American Naturalist, March, 1890, Vol. XXIV, No. 279, p. 277. Short comment on quality of the work.
29. BILLINGS, JOHN S. Some tiny fungi. Youth's Companion, Vol. 63, No. 20, May 15, 1890, p. 272. Notices bacteria, fermentation, fungus on tomato.
30. BOLLEY, H. L. Note on the wheat rust. Microscopical Journal, March, 1890, Vol. XI, No. 3, p. 59. Discusses question of other host than Barberry for the æcidium of *P. graminis*. Notes possible infection through sporidia or dissemination of early formed uredospores. Expresses opinion that neither *P. rubigo-vera*, (D. C.) Wint., nor *P. graminis*, Pers., are truly perennial. Suggests questions in regard to winter life and identity of *P. rubigo-vera* with European species.

31. CHESTER, F. D. A botanical description of the black-rot of the grape (with figures from Ann. Rept., Section of Vegetable Pathology, 1886). Second Annual Report of Delaware Agricultural Experiment Station, 1889, issued February, 1890. Presents in concise popular form the results of investigations of Section Vegetable Pathology, and others, into life history of *Leostadia Bidwellii*, (Ellis) V. & R.
32. ——— Peach yellows, culture tests. *Ibid.*, pp. 92-94. Shows complete failure of attempts to produce bacterial colonies in peach-wood infusions or nutrient gelatine from portions of the inner bark of diseased twigs.
33. ——— The black-rot of the grape controlled by Bordeaux mixture. *Ibid.*, pp. 79-87. Offers results of experiments in 1889 on vineyard of 1199 vines, near Smyrna, Del.
34. ——— Spraying with sulphide of potassium for the scab of the pear. *Ibid.*, pp. 88-91. Reports successful experiment near Newark, Del., upon the fruit of fourteen pear trees attacked by *Fusicladium pyrinum*, Fekl. Same found in Bull. Del. Ag. Ex. Sta. VIII, March, 1890, p. 11.
35. ——— Diseases of alfalfa. *Ibid.*, pp. 94-97. Notices *Phacidium medicaginis*. Lasch., and describes as new *Cercospora helvola*, Sacc., var. *medicaginis*, on *Medicago sativa*, with original figure.
36. CURTISS, GEORGE G. Treatment of bitter-rot of the apple. Bull. 11, Sect. Veg. Path., U. S. Dept. Ag., p. 38. Reports successful treatment of *Glæosporium fructigenum*, Berk., with potassium sulphide and ammoniacal copper carbonate solutions. Prefers latter solution.
37. EARLE, F. S. Experiments with fungicides for plant diseases. Bull. 11, Sect. Veg. Path., U. S. Dept. Ag., p. 83. Notes injury to peach and plum leaves from Bordeaux mixture applied for rust (*Puccinia pruni*, Pers.).
38. ELLIS, J. B., and EVERHART, B. M. Notes on a species of *Coprinus* from Montana (with Plate IV). The Microscope, May, 1890, Vol. X, No. 5, p. 129. Describes and figures *Coprinus sclerotigenus*, E. & E., as new, from Great Falls, Montana.
39. GALLOWAY, B. T. Report on the experiments made in 1889 in the treatment of the fungous diseases of plants. Bull. 11, Department of Agriculture, Section of Vegetable Pathology. Contains reports on diseases of grape, apple, quince, pear, plum, peach, melon, potato, tomato; with reports of Goff, Howell, Holliday, Jaeger, Scribner, Earle, and Pearson, also summary of volunteer reports on treatment of grape diseases, and announcement of new fungicides, translated from Italian of Comes & Deperais.
40. ——— Notes on the fungus of apple scab. Bull. No. 59, Mich. Ag. Exp. Sta., April, 1890, p. 27.
41. ——— Pear leaf blight (with fig.). Proc. 15th Ann. Meet. Am. Ass'n. of Nurserymen, 1890. Gives description of *Entomosporium maculatum*, Lév., with latest methods of treatment.
42. GOFF, E. S. Treatment of apple scab (with Plate I). Bull. 11, Sect. Veg. Path., U. S. Dept. Ag., p. 22. Gives successful results of experiments on twelve trees with potassium sulphide, sodium hyposulphite, Bean's sulphur powder, ammoniacal copper carbonate, and Bean's liquid sulphur preparation. Decides in favor of ammoniacal copper carbonate.
43. ——— Prevention of apple scab (with fig.). Bull. 23, Univ. of Wisc., April, 1890. Reports experiments made in connection with Sect. Veg. Path. in 1889. Reported in Bull. 11 of the Section of Vegetable Pathology, Dept. Ag.
44. ——— Prevention of apple scab, *Fusicladium dendriticum*, Fekl. The Prairie Farmer, April 19, 1890, Vol. 62, No. 16, p. 246. Describes use of fungicides in treatment of the disease.
45. HALSTED, B. D. Why not legislate against the black knot. Garden and Forest, April 16, 1890, Vol. III, No. 112, p. 194. *Plowrightia morbosa*, (Schw.) Sacc. is

## 45. HALSTED, B. D.—Continued.

- noted as being from its character easily legislated against. Thinks the law should be made to include wild plum and cherry trees.
46. ——— **Anthraxnose or blight of the oak.** Garden and Forest, June 18, 1890, Vol. III, No. 121, p. 295. The *Glaeosporium nervisequum*, (Fckl.) Sacc., attacking *Platanus occidentalis*, described in the JOURNAL OF MYCOLOGY, Vol. 5, No. II, is found causing great damage to the leaves of white-oak trees near New Brunswick, N. J. It is recommended to cut down the affected trees to check the spread of the disease.
47. ——— **Legislation against fungous diseases.** Garden and Forest, June 25, 1890, Vol. III, No. 122, p. 307. Gives copy of law of New Jersey enacted May 23, 1890, authorizing destruction of all plants which in the opinion of the officers of the State Experiment Station are so diseased as to threaten injury to agricultural interests. Owners of diseased plants to be recompensed by State. Notices, in connection, *Peronospora rubi*, Rabenh., upon cultivated raspberry, as being new to this country.
48. ——— **Nematodes and the oat crop.** Garden and Forest, July 2, 1890, Vol. III, No. 123, p. 319. Notices presence of bacteria in diseased oat plants without determination as to pathogenic nature. The presence of abundant nematodes in the small roots is thought a possible cause. Refers to articles of Comstock, Atkinson, and Neal on nematodes, and mentions possible preventive measures to be taken.
49. ——— **Anthraxnose on the maple.** Garden and Forest, July 2, 1890, Vol. III, No. 123, p. 325. Mentions a tree of *Acer rubrum* standing near an oak attacked with *Glaeosporium nervisequum*, (Fckl.) Sacc., as having been badly diseased with the same fungus.
50. ——— **Sweet-potato soil-rot and other forms.** Rural New Yorker, April 19, 1890, Vol. XLIX, No. 2099, p. 249. Notices "ground-rot" similar to clover sickness; soft rot due to a *Mucor*; black-rot, stem-rot, and white-rot, giving popular descriptions of the various forms.
51. ——— **Fungi injurious to crops.** Tenth Annual Report New Jersey Ag. Exp. Sta., 1889; published 1890, pp. 231-237. Notices prevalence of and remedies for potato-rot, grape-rot, cranberry gall fungus (*Synchytrium vaccinii*, Thomas), cranberry scald, cucumber mildew (*Peronospora cubensis*, B. & C.), sweet-potato rots. The decay of market fruits. *Phyllosticta Halstedii*, Ell., on Lilac, (*Syringa vulgaris*, L.), mentioned as new.
52. ——— **Fungi injurious to horticulture.** Proc. N. J. State Hort. Soc., 15th Ann. Meeting, Dec. 18-19, 1889, published in 1890. Diseases of the following plants are briefly mentioned, with a possible remedy: Apple, pear, quince, peach, plum, cherry, grape, blackberry, raspberry, gooseberry, currant, strawberry, cranberry, Irish potato, sweet potato, egg-plant, tomato, watermelon, squash, cucumber, cabbage, lettuce, onion, carrot, celery, parsnip, beet, salsify, bean, pea, rose, violet, mignonette, and carnation.
53. ——— **Rusts, smuts, ergots, and rots.** Some of the diseases that seriously affect field crops, vegetables, and fruits. Remedies that have proved successful. Address before N. J. State Board of Ag., Jan. 31, 1889 (May 26, 1890), Pamph. 8vo., pp. 21. Popular exposition with lists of fungi injurious to New Jersey farm crops, and illustrative plates of *Phytophthora infestans*, DBy., *Claviceps purpurea*, Tul., *Puccinia*, sp., *Tilletia* sp., and *Ustilago* sp.
54. ——— **A new white smut.** Bull. Torrey Botanical Club, April, 1890, Vol. XVII, No. 4, p. 95. Describes *Entyloma Ellisii*, n. s., as infesting the cultivated spinach, *Spinacea oleracea*. Notes *E. linariae* forma *Veronicae*, nov. forma, on *Veronica peregrina*, differing sufficiently from that on *Linaria vulgaris* to warrant name. Gives list of *Entylomata* with orders of host plants, showing *Spinacea* to introduce a new host order.

55. HARKNESS, H. W. **Curled leaf.** Zoë, San Francisco, Cal., Vol. I, No. 1, March 1890, pp. 87-88. Remarks on probable identity of disease of leaves of *Æsculus Californica*, with *Ascomyces deformans*, Berk.
56. ——— **The nomenclature of fungi.** Zoë, San Francisco, Cal., Vol. I, No. 2, April, 1890, pp. 49-50. Remarks upon the probable identity of numerous different species described on nearly related hosts, noticing the excellent work of Dr. Farlow's Host Index, and criticising sharply the practice of species-making upon insufficient bases.
57. HARRIS, J. S. **Grape diseases.** Ann. Rep. Minn. State Hort. Soc. for 1889, Vol. XVII, pp. 284-287. Notices *Peronospora viticola*, B. & C., black-rot, white-rot, and bitter-rot; remarks on seriousness of last; gives remedies, referring to Dept. of Agr., Sect. of Veg. Path., Bull. 5.
58. HOLLADAY, A. L. **Treatment of grape diseases.** Bull. 11, Sect. Veg. Path., U. S. Dep., Agr., p. 70. *Lastadia Bidwellii*, (Ellis) V. & R., and *Peronospora viticola*, B. & C., treated successfully with copper compounds.
59. HOWELL, A. M. **Report for 1889 in treating diseases of the grape and tomato** (with plates VII and VIII). Bull. 11, Sect. Veg. Path., U. S. Dept. Agr., p. 49. Describes at length course of treatment with Bordeaux mixture for *Lastadia Bidwellii*, (Ellis) V. & R.; and Bordeaux and ammoniacal copper carbonate solutions for tomato-rot (*Macrosporium* sp.).
60. JAEGER, HERMANN. **Treatment of grape diseases.** Bull. 11, Sect. Veg. Path., U. S. Dept. Agr., p. 65. Reports successful treatment of *Coniothyrium diplodiella*, (Speg.) Sacc. *Lastadia Bidwellii*, (Ellis) V. & R. and *Peronospora viticola*, B. & C. in Missouri, with note on presence of black-rot on wild species of *Vitis*.
61. JENNINGS, H. S. **Some parasitic fungi of Texas.** Bull. 9, Texas Agr. Expt. Sta., May, 1890, College Station, Texas. A list with notes on injuriousness. Several provisional new species given without descriptions. *Cercospora* sp. n. s., on *Begonia*; *Colletotrichum bromi*, n. s., on *Bromus unioloides*; *Diorchidium boutelouæ* on *Bouteloua racemosa*; *Ravenelia Texanus*, Ell. & Galw., on *Desmanthus* or *Cassia*; *Tilletia rugispora*, Ell. & Galw., on *Paspalum plicatulum*; *Ustilago apiculata*, Ell. & Galw., on *Andropogon saccharoides*.
62. KELLERMAN, W. A. **The hackberry** (with plate). Industrialist, Manhattan, Kans., Vol. XV, No. 26, March 1, 1890, p. 109. Notices disease of hackberry "knot" caused by *Spherotheca phytoptophila*, Kell. & Swing, and *Phytoptus*, sp., gives distribution.
63. ——— **Prevention of smut.** Industrialist, Manhattan, Kans., Vol. XV, No. 25, February 22, 1890, p. 101. Reports on letter from J. L. Jensen regarding augmentation of crop by hot-water treatment, and method of using said treatment.
64. LATHAM, A. W. **Diseases of the grape-vine in Minnesota.** Ann. Rep. Hort. Soc. Minn. for 1889, Vol. XVII, p. 287. Notices "Greely rot," powdery mildew and downy mildew. Remarks latter to be the only serious disease in the section. Refers to work of Dept. of Agr. on the subject.
65. LOCKWOOD, SAMUEL. **Fungi affecting fishes. An aquarium study. First paper, Saprolegnia**, read March 7, 1890 (with plates 22-23). Journal New York Microscopical Society, Vol. VI, No. 3, July, 1890, pp. 67-78. Notices *Saprolegnia ferax* as attacking black sun-fish, spotted sun-fish and a species of pirate perch, in the aquarium. Twenty-four individuals succumbed to attack of fungus in six weeks. Describes and figures fungus, giving life history including formation of oospore; mentions *Dictyuchus* as found in connection with *S. ferax*. Thinks application of carbolic acid impracticable.
66. ——— **Fungi affecting fishes. An aquarium study. Second paper, Devæa**, read March 21, 1890 (with plate 24) *Ibid.*, pp. 79-85. Gives description of *Devæa infundibilis*, n. s. attacking and destroying in an aquarium six specimens of *Hippocampus heptagonus*, Rafin., giving abundant figures of fungus, with mode of growth.

67. LONSDALE, EDWIN. **Damping off.** American Garden, Vol. XI., No. 6; June, 1890, p. 348. Mentions greenhouse methods of treatment.
68. MASSEY, W. F. **Damping off.** American Garden, Vol. XI, No. VI, June 1890, p. 347. Ventures the opinion that the disease is due to the combined action of algæ and fungi.
69. MAYNARD, S. T. **Some observations on peach-yellows** (with figures). Bull., No. 8, Mass. Hatch Expt. Sta., April, 1890, pp. 6-12. Discusses symptoms of disease; its relation to food supply, injury by cold, borers, and accident; recommends destruction of all diseased trees.
70. ——— **Damping off.** American Garden, Vol. XI, No. 6, June, 1890, p. 347. Refers diseases to a fungus and recommends course of treatment.
71. MCBRIDE, T. H. **The saprophytic fungi of eastern Iowa** (with plates IV and V), Bull. Laboratory of Nat. Hist. of State University of Iowa, Iowa City, Vol. I, Nos. 3-4, June, 1890, pp. 181-195. Continues a descriptive list, with notes on distribution and microscopical characters, begun in Vol. I, No. 1, pp. 30-44. Noticing four species of the series *Hyporhordii*, eight of *Dermini*, ten of *Pratelli*, four of *Coprinarii*, and six species of *Coprinus*. Figures in part *Agaricus campester*, *A. sapidus*, *Russula* sp. *Polyporus lacteus*, *Morchella esculenta* and *Lycoperdon cyathiforme*.
72. ——— **Common species of edible fungi.** *Ibid.*, p. 196. Describes three species, *Morchella esculenta*, Linn., *Agaricus campestris*, L., and *Lycoperdon cyathiforme*, Bosc., as fit for table use.
73. MCCLUER, G. W. **The blight of the sycamore.** Garden and Forest, July 21, 1890, Vol. III. No. 123, p. 325. Notices *Glascosporium nervisequum*, (Fekl.) Sacc., as destructive to Sycamore trees at Champaign, Ill., for twenty years; also as found in northern and western Illinois, and in fact throughout the State.
74. MEEHAN, THOMAS. **Damping off.** American Garden, Vol. XI, No. VI, June 1890, p. 347. Refers diseases to a fungus, gives possible remedies.
75. MORGAN, A. P. **North American fungi.** Journ. Cincinnati Society of Natural History, Vol. XII, No. 4, January, 1890, p. 163. Third paper. Papers 1 and 2, found in Vol. XI, p. 149, and XII, p. 22 respectively. The *Gastromycetes*, read by title, February 4, 1890, (with Plate XVI).
76. ——— **Mycological observations I.** Bot. Gaz. Vol. XV., No. 4, April 19, 1890, p. 84. Mentions habitats and peculiarities of *Schizophyllum*, *Menispora*, *Arthrosporum*, *Bactridium*, *Nematelia nucleata*, Schw., *Stereum albobadium*, Schw., *Dacrymyces deliquescens*, Bull.
77. PAMMEL, L. H. **Some fungous diseases of fruit-trees in Iowa.** Abstract from Proceedings of the Iowa Academy of Sciences, 1887-'89. March 10, 1890. Mentions *Entomosporium maculatum*, Lév., as defoliating all young pear-trees with the exception of Chinese variety. Notes its presence on species of *Pyrus*, *Cydonia*, *Mespilus*, and *Cotoneaster*.
78. ——— **Diseases of forage plants.** Proceedings 16th Ann. Meeting Iowa Improved Stock-Breeders Association, pp. 138-141. *Puccinia graminis*, *P. rubigo-vera*, *Ustilago maydis*, *Tilletia striæformis*, *Claviceps purpurea* are noticed.
79. ——— **Beggiatoa alba and the dying of fish in Iowa.** Proc. Iowa Acad. Sci., 1887-'89, March 10, 1890. Notices presence of the putrefactive bacterium in waters of State in connection with dead fish.
80. ——— **A cherry disease.** *Ibid.* Treats of leaf disease caused by *Cylindrosporium padi*, Karst. Discusses synonymy, and refers *Septoria cerasina*, Pk., and *S. pruni*, Ellis, to *C. padi*, Karst. Iowa specimens were found by Mr. Ellis to agree with Karsten's species.
81. ——— **Cotton-root rot.** Second Annual Report Tex. Ag. Ex. Sta., College Station, Tex., pp. 61-85 (with Plates I-V, figuring *Ozonium auricomum*, Lk., and *Verticillium*). Gives theories and general character of the disease, plants affected by the cotton fungus (*O. zonium auricomum*, Lk.); the fungus on forest and

## 81. PAMMEL, L. H.—Continued.

- apple trees; weeds affected; botanical characters; other fungi on the roots of cotton and sweet potato; the character of the lint of diseased cotton; the seed of diseased cotton; treatment, use of fertilizers and manure; rotation of crops; how and what plants to be used in rotation; treatment of forest and apple trees; also a list of references to articles on the subject.
82. ——— **New lima-bean mildew.** The Orange Judd Farmer, May 10, 1890. Gives popular description of *Phytophthora phaseoli*, Thax.
83. ——— **Onion smut.** Orange Judd Farmer, April 26, 1890. Popular review of report by Roland Thaxter in Annual Report Conn. Ag. Ex. Sta., 1880. See 10, I.
84. ——— **Smuts, wheat and oat.** Orange Judd Farmer, March 29, 1890. Popular exposition.
85. PEARSON, A. W. **Notes on strawberry culture.** Garden and Forest, March 19, 1890, Vol. III, No. 108, p. 141. Notices *Sphaerella fragariae*, Sacc., and recommends winter and spring liming. Sodium hyposulphite and potassium sulphide are thought also effective in treatment. Mentions burning with sulphuric acid as effective.
86. ——— **Report of experiments made in 1889 in treatment of fungous diseases of plants.** Bull. 11, Sect. Veg. Path., p. 41. Grape maladies, apple leaf-rust, pear leaf-blight (with Plates V, VI), quince diseases, melon blight, tomato blight, potato blight, strawberry leaf-blight, are treated of and the results of field experiments with fungicides given.
87. ——— **The use of fungicides in the prevention and cure of fungous diseases of plants.** Fifteenth Proceedings N. J. State Hort. Soc., Dec. 18-19, 1890, pp. 163-175. Popular address, giving results of original experiments with numerous diseases of grape, apple, pear, quince, and potato.
88. SCRIBNER, F. L. **Dotted or speckled anthracnose of the vine** (with fig.) Orchard and Garden, April, 1890, Vol. XII, No. 4, p. 82. Discusses disease, external characters, microscopical characters, quoting Viala's opinion that *Anthraco-nose macula* and *Anthraco-nose puncture* are caused by the same fungus. A wash of 50 per cent. solution of iron sulphate is recommended.
89. ——— **Plum-rot, or the monilia of fruit** (with figs.) Orchard and Garden, May, 1890, Vol. XII, No. 5, p. 103. Notices *Monilia fructigena*, with brief life history, figuring same. Quotes Erwin F. Smith, JOURN. OF MYCOL. 5, III, and discusses treatment with copper carbonate.
90. ——— **Apple scab and its treatment** (with figs.) Orchard and Garden, Vol. XII No. 6, June, 1890, p. 113. Gives distribution and destructiveness, with life history and methods of treatment, of fungus, quoting from Prof. Goff's report, Wis. Ag. Expt. Sta., 1889.
91. ——— **The smut of onions** (with figs.) Orchard and Garden, Vol. XII, No. 6, June, 1890, p. 113. Reviews at length work of Roland Thaxter in Ann. Rep. Conn. Ag. Expt. Sta. for 1889, giving figures redrawn. See 10, I.
92. ——— **Apple rust and cedar apples** (with figures taken from Ann. Rep. Sect. Veg. Path. 1888). Orchard and Garden, July, 1890, Vol. XII, No. 7, p. 134. Notices *Ræstelia pirata*, Thax., and *Gymnosporangium macropus*, Link., giving connection and life history, with recommendation to remove cedars from vicinity of orchards, plant resistant varieties of apples, and spray with the Bordeaux mixture.
93. ——— **Treatment of certain fungous diseases of plants.** Special Bulletin, Tenn. Ag. Expt. Sta., May 10, 1890. Gives results of usual methods of treatment for black rot of grapes, apple scab, downy mildew of the vine, brown-rot of grapes; powdery mildew of the grape-vine, gooseberry, rose, and apple; leaf brownness of pear and quince, potato rot, smut of oats and wheat, quoting from Kans. Expt. Sta. Bull. 8, p. 95.

94. ——— Report on the extent, severity, and treatment of black-rot in northern Ohio in 1889. Bull. 11, Sect. Veg. Path., U. S. Dept. Ag. Notes diminished parasiticism of *Lastadia Bidwellii*, (Ellis) V. & R., and destructive nature of *Peronospora viticola*, B. & C. in this region.
95. SECTION OF VEGETABLE PATHOLOGY. Fungoid diseases. Ann. Rep. State Board of Hort. of California for 1889. Issued 1890. Verbatim extracts from the reports of the section for 1887-'88, treating of *Entomosporium maculatum*, Lév., *Puccinia pruni*, Pers., *Podosphæra oxyacanthæ*, D. C., *Phragmidium mucronatum*, Wint., *Actinonema roseæ*, Lib., *Sphaerella fragariæ*, Sacc.
96. SEYMOUR, A. B. A race of flowerless plants, I. Fungi—What they are and how they live (with figures). American Garden, February, 1890, Vol. XI, No. II, p. 79. Gives general outline of saprophytic and parasitic fungi, distinguishing the two, with suggestion as to time to apply remedies; figures *Uredo* stage of *Puccinia*; section of *Hymenomycetes* and others.
97. ——— A race of flowerless plants, II. The metamorphoses of Fungi—How different forms change into each other (with plate). American Garden, March, 1890, Vol. XI, No. III, p. 135. Notices apple rust (*Rastelia*) (fig.), Cedar balls (*Gymnosporangium macropus*, Link.) (fig.), wheat rust (fig.) (*Puccinia graminis*, Pers., *P. Rubigo vera* (DC.) Wint., and *P. coronata*, Corda), Black rot (fig.). Refers to system of terminology used by botanists.
98. ——— A race of flowerless plants, III. Yeast and Bacteria—Putrefaction and Fermentation—Pear blight, (with figures). American Garden, Vol. XI, No. IV, p. 215, April, 1890. Notices discovery of bacterial diseases in plants by Burrill, with figures of pear blight bacteria and sections of diseased and healthy pear bark.
99. ——— A race of flowerless plants, IV. How fungi are dispersed, with hints for the cultivator (with figures after DeBary, Pringsheim, Hine and Brefeld). American Garden, Vol. XI, No. V, May, 1890, pp. 276-278. Notices methods of spore dispersion in *Discomycetes*, *Pilobolus*, *Saprolegnia*, *Phallus*, *Puccinia*, *Claviceps*, *Ustilago*, and hints at general means of preventing spread of diseases.
100. ——— A race of flowerless plants, V. How fungi injure plants (with figures.) American Garden, Vol. XI, No. VI, June, 1890, p. 353. Mentions spot diseases of currant leaves; spot disease of mignonette leaves; ergot, pear scab, plum pockets, cedar apples, and corn smut.
101. ——— Damping off (with figures). American Garden, Vol. XI, No. VI, June, 1890, p. 349. Refers the disease to *Phytophthora omnivora*, DBY. (or *Pythium omnivora*) and *Phthium DeBaryanum*, Hesse. Thinks the latter most likely the cause of the trouble in America.
102. ——— Notes on corn smut—a warning. Cult. and Count. Gent., April 24, 1890, Vol. LV, No. 1943, p. 323. Describes life history of smut, and accounts for increase from year to year by reference to discoveries of Brefeld.
103. SNOW, F. H. Experiments for the artificial dissemination of a contagious disease among chinch-bugs. Proceedings nineteenth annual meeting Kansas State Board of Agriculture, pp. 142-144; also transactions Kansas Academy of Science, Vol. XII, Part I, for 1889 (1890), pp. 34-37. Notices *Entomophthora* disease of chinch-bug.
104. TAFT, L. R. Experiments with remedies for the apple scab (with plates II, III, and IV). Bull. 11, Sect. Vegt. Path., U. S. Dept. Ag., p. 30. Reports on experiment with twenty trees for disease of *Fusicladium dendriticum*, Fekl., using potassium sulphide, sodium hyposulphite, Bean's sulphur solution, ammoniacal solution of copper carbonate, modified eau celeste. Decides eau celeste and ammoniacal solution most efficient.
105. THAXTER, ROLAND. Fungicides. Bull. No. 102, Conn. Ag. Expt. Sta., March, 1890. Formulæ, with new spraying contrivance figured.



106. WEED, C. M. **A season's work among the enemies of the horticulturist** (with plates). Journ. Columbus Hort. Soc., Vol. IV, No. 4, December, 1889, pp. 94-106; extracted, February, 1890. Notices black rot of grape, quince leaf spot (*Mor-thiera mespili*, Sacc.), apple scab, brown rot of stone fruits (*Monilia fructi-gena*, Pers.), potato rot. Figures fruit rot and apple injured (?) by Bordeaux mixture.
107. ——— **Fungous diseases of plants and their remedies.** Bull. Ohio Agr. Expt. Sta., second series, Vol. III, No. 4, April, 1890. Notices or defines briefly potato blight or rot, apple scab (quoting from Report U. S. Dept. Ag., for 1889), pear leaf blight, powdery mildew of apple and cherry, and plum fruit rot.
108. ——— **The brown rot of the stone fruits** (with figures). The American Garden, Vol. XI, No. III, March, 1890, p. 165. Mentions attacks of *Monilia* on plums, cherries, and peaches with efforts made at Ohio Expt. Sta. to check same by use of copper compounds.
109. ——— **The potato blight.** Am. Agriculturist, July, 1890, p. 360, Vol. XLIX, No. 7. Discusses use of Bordeaux mixture and ammoniacal solution in treatment for *Phytophthora infestans*, DBY.
110. WATSON, B. M., jr. **Damping off.** American Garden, Vol. XI, No. 6, June, 1890, p. 348. Refers disease to *Pythium omnivora*, and gives preventive measures to be taken to avoid the trouble. Pricking off into fresh soil considered as the best remedy.
111. WOOLVERTON, L. **Treatment of apple scab.** Canada Horticulturist, June, 1890, p. 165. Sums up work done with *Fusicladium dendriticum*, Fekl., with special notice of JOURN. OF MYCOL., Vol. V, No. 1, p. 210.
112. ——— **The strawberry leaf blight** (with figures from Bull. XIV Cornell Univ.). Can. Hort., April, 1890, p. 109. Notices *Sphaerella fragariae*, Sacc., with review of Professor Dudley's article in Bull. XIV, Cornell Univ.